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ABSTRACT

The Department of Defense directed that the military services move toward the use of a common aptitude battery for satisfaction of their personnel selection requirements. The content of existing service classifications were studied during the initial phase of battery redesign. Elements from the Army Classification Inventory, the Navy Vocational Interest Inventory, and the Air Force Vocational Interest Choice Examination were combined to form an interest inventory. An item pool of 2,700 test items was administered to 500 to 600 subjects at basic training centers and at the Armed Forces Entrance and Examination Stations. Three forms of the battery (5, 6, and 7) were then developed and administered to approximately 4,500 Army, Navy, Air Force, or Marine Corps applicants. Service norms were developed from a sample of 16,000 of these subjects. The reliability of the three test forms was found to be high, particulary for the composite scores. (DSE)

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AIR FORCE HUMAN RESOURCES LABORATORY

ARMED SERVICES VOCATIONAL APTITUDE BATTERY DEVELOPMENT (ASVAB FORMS 5, 6, AND 7)

By

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December 1976
Final Report for Period 1 July 1974 – 30 November 1976

Approved for public release; distribution unlimited.

AIR FORCE SYSTEMS COMMAND
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This technical report has been reviewed and is approved.

LELAND D. BROKAW, Technical Director
Personnel Research Division

Approved for publication.

DAN D. FULGHAM, Colonel, USAF
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Toward the objective of satisfying enlistment production requirements of all the services, ASVAB Forms 5, 6, and 7 were redesigned to incorporate the content of current service classification batteries. The reconfigured battery contains 12 subscales plus the Army's Classification Inventory.

Normative procedures included the administration of ASVAB 5, 6, and 7 at a nationally representative sample of Armed Forces Entrance and Examination Stations (AFEES). Each examinee took one form of the ASVAB along with the AFQT composite from the Army Classification Battery or ASVAB-3. A stratified random sample of 1,600 cases was used in the development of service norms.

PREFACE

This work was performed under project 7719, Air Force Personnel Systems Development on Selection, Assignment, Evaluation, Quality Control, Retention, Promotion, and Utilization; task 771910, Armed Forces Operational Selection and Classification Programs.

The authors express their appreciation to Sgt Louis T. Kaiuza for his assistance with item development, and to Mr. Lewis Reed and Mr. Cecil Cannon for their assistance with the organization and preparation of the test booklets.

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ARMED SERVICES VOCATIONAL APTITUDE BATTERY DEVELOPMENT (ASVAB) FORMS 5, 6, AND 7)

I. BACKGROUND

From 1958 until 1972, the Air Force used the Airman Qualifying Examination (AQE) in various forms and revisions for classification and original assignment of enlisted personnel. This examination was a two-hour substitute for the seven-hour airman classification battery (ACB). It had originally been designed to provide aptitude composites for those airmen who had entered the Air Force before the introduction of the ACB.

As used by the recruiters after 1958, the AQE was used for pre-enlistment classification into four aptitude areas—Mechanical, Administrative, General, and Electronics. Final allocation into specific training or job slots within the aptitude area was accomplished at a counseling session during basic training based upon aptitude level, individual interests, and available assignments. In 1958, the Air Force Recruiting Service inaugurated the high school testing program, under which score information was provided to school counselors for their use. The program identified promising enlistment prospects among graduating high school seniors.

After inauguration of the Air Force program, the other services also inaugurated high school testing programs. Partly as a function of high school complaints about competing programs, the Department of Defense (DoD) directed that a joint service high school testing program be set up, and, in early 1966, a working group was established to develop the test instrument for the joint program. This effort resulted in a battery which consisted of nine scales which were common to the separate service classification batteries or were required to obtain an Armed Forces Qualification Test (AFQT) score. A more complete description of the development of Armed Services Vocational Aptitude Battery (ASVAB) Forms 1 through 4 is provided by Jensen and Valentine (1976) and Bayroff and Fuchs (1970).

II. DEVELOPMENT OF THE RECONFIGURED BATTERY

In early 1974, DoD directed that the services move expeditiously toward use of a common aptitude battery for enlistment production. The Office of the Assistant Secretary of Defense (Manpower and Reserve Affairs) guidance was that ASVAB be redesigned to satisfy enlistment production requirements of all the services with high school usage being a secondary consideration.

Starting point for battery redesign was consideration of content of current service classification batteries and the uses being made of this content. In addition, near term plans of the services with respect to battery modifications were considered. From these reviews, a preliminary battery plan was developed at Air Force Human Resources Laboratory for review at the other service laboratories.

The preliminary plan called for two perceptual tests, 12 cognitive power tests, and a rather lengthy Interest Inventory to include materials from the Army Classification Inventory (ACI), the Navy Vocational Interest Inventory (NVII), and the Air Force's Vocational Interest Choice Examination (VOICE). It was estimated that the battery defined in the initial plan would require over four hours of actual testing time. Table 1 summarizes content of the preliminary plan.

The clerical speed measure contained in earlier forms of the ASVAB was coding speed. This scale had been contained in, but was later dropped, from the ACB; it was quite different from clerical speed scales used in previous Air Force and Navy batteries. Army data suggested that Attention to Detail was preferable to coding speed for the clerical composite, and Air Force data showed lower validity for the ASVAB Administrative Composite than had been obtained from the AQE. (The difference lay in coding speed in ASVAB versus Numerical Operations in AQE.)

Numerical Operations involves rapid addition, subtraction, multiplication, and division. It has demonstrated Air Force validity for the Administrative jobs; moreover, Navy had expressed interest in evaluating it for Navy schools.

Word Knowledge, Arithmetic Reasoning, and Space Perception have a long history as highly valid components of service selection and classification test batteries and, typically, constitute the service qualification composite, or AFQT.

The Mathematics Knowledge scale consists of algebra and geometry items and is included because it has been in the Army and Navy classification batteries.

In the electronics area, two separate scales were proposed: (a) an Electronics Information scale much like that in the present ASVAB, and (b) a Radio Information scale. Electronics Information has been included in service batteries over a number of years; in addition, Navy uses Radio Information items in their battery. While one would expect relatively high correlation between these scales, Navy reports some unique predictive utility from their Radio Information items, especially for their communications specialties.

Mechanical Comprehension, Shop Information, and Automotive Information have typically formed the nucleus for Mechanical and Crafts Composites in the service batteries. Mechanical Comprehension deals with understanding of mechanical principles and movements, while Automotive Information measures information obtainable through Mechanical (especially automotive) experience; and Shop Information deals with repair procedures and tool usage for a variety of hands-on activities.

Two separate science scales were proposed: Biological Science and Physical Science. The Army Classification Battery contains a biological science scale which has demonstrated validity in the Army system, especially for medical specialties, and the Navy Classification Battery contains a Physical Science scale which has demonstrated validity for some of their specialties. The initial proposal was to include these two areas, in equal numbers of items, in a General Science scale which could yield separate Biological and Physical Science scores.

Army's General Information scale is considered essential to their purposes, and its inclusion was also proposed. It is characterized by items dealing with sports, outdoor activities, weapons, and automobiles.

Remaining elements of the preliminary proposal were interest materials. Army uses an 87-item classification inventory, yielding four scores. These are used in formation of six Army composites. ACI is viewed by Army as essential since it provides differential variance to Army composites. Air Force and Navy laboratories have also been engaged for some time in interest measurement research. Navy has developed the NVII for use in recruit counseling regarding job assignments, while Air Force has developed the VOICE for similar purposes. These latter two instruments are quite different in format and measurement approach.

The preliminary proposal was to form a two-part interest inventory from these three instruments, thus providing a common interest data base for further analysis and refinement into a joint interest instrument.

Table 2 shows final content configuration for the battery. It was essential that the battery be shortened from its preliminary testing time estimates, especially for application in the joint services high school program. In addition, the various recruiting service commanders desired a test time considerably shorter than the four hours required in the preliminary plan. Content shown in Table 2 was arrived at after a series of joint service committee deliberations, and was possible *only* because of various compromises from what would have been considered optimal. Note that, for the most part, scales in the final plan were shortened from the originally planned number of items, and one must expect some reduction in reliability as a result. Word Knowledge was the one exception to this general length reduction. This is because the Coast Guard uses Word Knowledge to screen personnel for officer programs and believes that anything less than 30 items would be inadequate for that purpose.

The proposed Biological and Physical Science scales were combined into a single 20-item General Science scale with 10 items of each type. In like manner, the proposed Electronics Information and Radio Information scales were combined into one 30-item scale with 15 items of each type. All interest material, with the exception of the 87 items keyed for Army composites, was excluded; thus, Navy and Air Force use of interest scales for counseling must be handled as separate, additional testing. The present 2 hour 35 minute test time does not include test instructions and identification information entry time. When one allows a 25 to 30 minute estimate for these, testing exceeds the 2 hour 45 minute maximum limit often cited for most high schools.

A pool of 2,700 test items (exclusive of Attention to Detail, Numerical Operations, and Interests) was assembled for experimental tryout and item analysis preparatory to final item selection. The excluded areas

were handled as separate scale development efforts since one of them depended solely on use of empirically keyed interest items and the other two test ability at easy tasks under highly speeded conditions. The item pool was administered to samples of 500 to 600 cases at basic training centers and at Armed Forces Entrance and Examination Stations (AFEESS). AFEES testing was necessary to obtain representation of cases rejected for enlistment. Item difficulty estimates were based on the full range mobilization population, and care was taken to include representation of women and ethnic minorities in the item analysis samples.

Three forms of the battery (5, 6, and 7) were developed from these items. Table 3 summarizes item difficulty for these three forms, and Table 4 summarizes internal consistency data for them. The p values given in Table 3 are based on an AFQT stratified sample and are, thus, estimates for the mobilization population. All p values are uncorrected for chance success; it was observed that most subjects attempt all items. It might be noted that average p's for Word Knowledge, Arithmetic Reasoning, and Space Perception are about .61. These three scales yield ASVABs AFQT composite which is used for selection; easy items are needed in these scales to maximize the accuracy of scores in the lower half of the aptitude range. Remaining scales are used in classification composites; an average p of .5 was sought for these. The one exception is General Information, which is used only by Army and for which Army desired easy items.

With respect to internal consistency, all items selected for inclusion in the scales correlated significantly with total item type score and had misleads which correlated negatively with total item type score. Most misleads demonstrated significant negative correlation.

Normative procedures included the administration of ASVAB 5, 6, and 7 at a nationally representative sample of AFEESs. Examinees took one form of the ASVAB along with the AFQT composite from the ACB or ASVAB-3. The order of administration was counterbalanced, and each examinee was either an Army, Air Force, Navy, or Marine Corps applicant. From approximately 4,500 cases collected (1,500 each from ASVAB 5, 6, and 7), a stratified random sample of 1,600 cases (Form 5–610 cases; Form 6–530 cases; Form 7–460 cases) was used in the development of service norms. These sample sizes were dictated by availability of cases for full AFQT range stratification.

Reliability data for individual subtests (based on KR-20) are presented in Table 5, and reliabilities for the ASVAB composites (based on the scale reliabilities and known intercorrelations) are shown in Tables 6 and 7. Note that the reliabilities, especially for the composites, are quite high.

Other statistical material is provided in Appendix A.

III. SUMMARY

Armed Services Vocational Aptitude Battery Forms 5, 6, and 7 were delivered for operational implementation as of 1 January 1976. These three ASVAB forms are characterized by complete coverage of cognitive materials previously present in the classification batteries of all the services. Provision is made for inclusion of the 87-item Army Classification Inventory. These tests are shown to be interchangeable in terms of item statistics, reliability, and normative data.

Table 1. **Preliminary Plan for ASVAB[a]**

Content Area		Number of Items
Attention to Detail		30
Numerical Operations		50
Word Knowledge		25
Arithmetic Reasoning		25
Space Perception		25
Mathematics Knowledge		25
Electronics Information		25
Radio Information		15
Mechanical Comprehension		25
Automotive Information		25
Shop Information		25
Biological Science		15
Physical Science		15
General Information		20
Interest Inventory		527
Army Classification Inventory	(87)	
Navy Vocational Interest Inventory	(190)	
Vocational Interest Choice Examination	(250)	

[a]Estimated testing time – 4 hours 6 minutes.

[b]Total item pool before consolidation, where possible, of content from the three source inventories.

Table 2. **Final Plan for ASVAB**

Content Area	Number of Items	Test Time (In Minutes)
Attention to Detail	30	5
Numerical Operations	50	3
Word Knowledge	30	10
Arithmetic Reasoning	20	20
Space Perception	20	12
Mathematics Knowledge	20	20
Electronics Information[a]	30	15
Mechanical Comprehension	20	15
Automotive Information	20	10
Shop Information	20	8
General Science[b]	20	10
General Information	15	7
Classification Inventory[c]	87	20
	Total	2 hrs 35 min

[a]Composed of 15 Electronics Information and 15 Radio Information items.

[b]Composed of 10 Biological and 10 Physical Science items.

[c]Army items only.

Table 3. **Summary of ASVAB-5, 6, and 7 Item Difficulties[a] (p values)**

Content Area	Form 5		Form 6		Form 7	
	Average p	p range	Average p	p range	Average p	p range
General Information	.62	.39–.90	.61	.38–.90	.62	.44–.90
Word Knowledge	.61	.32–.86	.61	.32–.90	.61	.31–.90
Arithmetic Reasoning	.60	.27–.92	.61	.30–.94	.61	.30–.95
Space Perception	.60	.30–.90	.61	.29–.85	.61	.25–.83
Mathematics Knowledge	.50	.33–.90	.50	.27–.90	.50	.31–.85
Electronics Information	.49	.27–.82	.50	.32–.85	.50	.28–.85
Mechanical Comprehension	.53	.30–.83	.53	.28–.87	.53	.33–.83
General Science	.56	.32–.85	.54	.32–.86	.55	.37–.90
Shop Information	.55	.30–.93	.57	.34–.90	.55	.34–.89
Automotive Information	.54	.34–.86	.53	.31–.81	.54	.33–.84

[a]Data on Attention to Detail and Numerical Operations are excluded since speed on the scale, rather than individual items is critical. Classification Inventory is excluded since it is empirically keyed against Army technical courses.

Table 4. **Median ASVAB Item Internal Consistency Indexes[a]**

Content Area	Form 5	Form 6	Form 7
General Information	.54	.48	.52
Word Knowledge	.42[b]	.42[b]	.40[b]
Arithmetic Reasoning	.40[b]	.39[b]	.41[b]
Space Perception	.42[b]	.41[b]	.42[b]
Mathematics Knowledge	.57	.56	.54
Electronics Information	.48	.47	.46
Mechanical Comprehension	.51	.53	.53
General Science	.49	.53	.52
Shop Information	.56	.55	.56
Automotive Information	.61	.60	.62

[a]Data on Attention to Detail and Numerical Operations are excluded since speed on the scale, rather than individual items, is critical. Classification inventory is excluded since it is empirically keyed against Army technical courses.

[b]Phi coefficients, other indexes are biserials.

Table 5. **ASVAB Subtest Reliabilities**

Subtest	Form 5 (N = 510)	Form 6 (N = 530)	Form 7 (N = 460)
General Information	.67	.75	.73
Numerical Operations[a]	–	.88	.86
Attention to Detail[a]	–	.82	.78
Word Knowledge	.91	.91	.91
Arithmetic Reasoning	.82	.86	.84
Space Perception	.82	.77	.80
Mathematics Knowledge	.88	.85	.80
Electronics Information	.87	.87	.84
Mechanical Comprehension	.81	.81	.79
General Science (Biology)	.63	.73	.70
General Science (Physics)	.64	.59	.66
General Science (Total)	.77	.79	.81
Shop Information	.83	.85	.82
Automotive Information	.84	.84	.86

[a]Subtest reliabilities were derived using Kuder-Richardson Formula 20 with the exception of Numerical Operations and Attention to Detail which were obtained by test-retest method; Forms 6 and 7 were used for this purpose. It can be assumed that Form 5 reliability is on a par with that for Forms 6 and 7.

Table 6. **ASVAB Composite Reliabilities**

Composites	Form 5	Form 6	Form 7
Air Force			
General	.93	.94	.93
Mechanical	.93	.93	.93
Administrative	–[a]	.94	.92
Electronics	.93	.93	.92
AFQT	.93	.94	.94
Navy			
General Technical	.93	.94	.93
Mechanical	.93	.93	.91
Electronics	.95	.95	.94
Clerical	–[a]	.94	.92
Army and Marine Corps[b]			
General Technical	.93	.94	.93
General Maintenance	.91	.94	.93
Surveillance/Communications	.95	.95	.95
Skilled Technical	.92	.93	.91
Electronics (Marines Only)	.95	.95	.94

[a]Reliability estimates for Form 5's Numerical Operations and Attention to Detail were not established; it can be assumed that these missing values are comparable to those for Forms 6 and 7.

[b]The following composites contain scales from the Army Classification Inventory for which reliability estimates were not available to the authors: Electronics, Clerical, Mechanical Maintenance, Combat, Field Artillery, Operators and Food.

Table 7. **ASVAB High School Composite Reliabilities**

High School Composites	Form 5	Form 6	Form 7
General Technical	.93	.94	.93
General Mechanical	.91	.92	.92
Electronics/Electrical	.91	.92	.90
Clerical/Administrative	_[a]	.94	.92
Motor Mechanical	.93	.92	.91
Communications	.92	.92	.92

[a]Reliability estimates for Form 5's Numerical Operations and Attention to Detail were not established; it can be assumed that these missing values are comparable to those for Forms 6 and 7.

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Bayroff, A., & Fuchs, E. *The Armed Services Vocational Aptitude Battery.* Technical Research Report 1161. U.S. Army Behavior and Systems Research Laboratory, 1970.

Jensen, H.E., & Valentine, L.D., Jr. *Validation of ASVAB-2 against civilian vocational-technical high school criteria.* AFHRL-TR-76-16, AD-A023 118. Lackland AFB, TX: Personnel Research Division. Air Force Human Resources Laboratory, March 1976.

APPENDIX A. STATISTICAL SUMMARIES[1]

Table A1 presents means and standard deviations for each of the ASVAB scales by form number. With the intention of creating three parallel forms, test items had been selected to promote statistical equivalence between forms.

Tables A2 through A5 present the intercorrelations between composites within each military service and for the high schools.

Tables A6 through A11 present the intercorrelations between each of the service composites and between the service and high school composites.

Table A12 presents the ethnic breakdown by ASVAB form, and Table A13 contains the average correlation across all three forms of each ASVAB subtest.

[1] Unless otherwise noted, values are based on the AFQT stratified samples (Form 5 = 610, Form 6 = 530, Form 7 = 460). For Tables A2 through A11, correlational values shown are averages (through the Z conversion) across the three forms. The separate values within forms were approximately equal.

Table A1. **Means and Standard Deviations**

Subtest	ASVAB Form 5	ASVAB Form 6	ASVAB Form 7	
General Information	8.97	8.28	9.00	$\bar{X}$
	2.95	3.46	3.24	SD
Numerical Operations	29.43	29.89	30.60	$\bar{X}$
	11.20	11.89	11.32	SD
Attention to Detail	13.07	13.44	13.98	$\bar{X}$
	4.22	4.51	4.35	SD
Word Knowledge	17.10	17.43	17.45	$\bar{X}$
	7.26	7.30	7.23	SD
Arithmetic Reasoning	10.99	11.47	11.04	$\bar{X}$
	4.33	4.84	4.66	SD
Space Perception	10.77	10.68	11.57	$\bar{X}$
	4.39	4.04	4.17	SD
Mathematics Knowledge	10.23	10.05	10.21	$\bar{X}$
	5.38	4.98	4.40	SD
Electronics Information	16.21	16.08	17.23	$\bar{X}$
	6.52	6.64	6.04	SD
Mechanical Comprehension	9.59	9.78	9.66	$\bar{X}$
	4.44	4.44	4.22	SD
General Science, Biological	5.47	6.04	5.81	$\bar{X}$
	2.30	2.49	2.44	SD
General Science, Physical	4.44	3.88	4.07	$\bar{X}$
	2.25	2.10	2.31	SD
General Science, Total	9.92	9.92	9.88	$\bar{X}$
	4.06	4.10	4.36	SD
Shop Information	11.98	11.78	11.99	$\bar{X}$
	4.61	4.91	4.50	SD
Automotive Information	10.32	9.90	10.11	$\bar{X}$
	4.81	4.80	5.02	SD

Table A2. **Intercorrelations of Air Force Composites**

Composite	Administrative	General	Electronics
Mechanical	.56	.70	.80
Administrative	–	.82	.72
General	–	–	.85

Table A3. **Intercorrelations of Navy Composites**

Composite	Mechanical	Electronics	Clerical
General Technical	.91	.88	.71
Mechanical	–	.91	.71
Electronics	–	–	.77

Table A4. **Intercorrelations of High School Composites**

Composite	General Mechanical	Electronics/ Electrical	Clerical/ Administrative	Motor Mechanical	Communications
General Technical	.84	.86	.82	.80	.83
General Mechanical	–	.88	.71	.86	.95
Electronics/Electrical	–	–	.72	.86	.87
Clerical/Administrative	–	–	–	.67	.69
Motor Mechanical	–	–	–	–	.88

Table A5. **Intercorrelations of Army/Marine Corps Composites**

Composite	General Maintenance	Clerical	Mechanical Maintenance	Surveillance/ Communications	Combat	Field Artillery	Operators and Food	Skilled Technical	(Army) Electronics	Marine Corps Electronics
General Technical	.85	.93	.73	.95	.80	.88	.71	.90	.80	.89
General Maintenance	–	.77	.91	.91	.86	.87	.83	.86	.92	.91
Clerical		–	.67	.88	.83	.88	.73	.86	.76	.85
Mechanical Maintenance			–	.79	.82	.85	.83	.76	.93	.86
Surveillance/ Communications				–	.88	.89	.72	.89	.87	.91
Combat					–	.83	.70	.81	.87	.83
Field Artillery						–	.82	.94	.90	.97
Operators and Food							–	.68	.78	.75
Skilled Technical								–	.83	.96
Electronics (Army)									–	.92

Table A6. **Intercorrelations of Air Force and Navy Composites**

Air Force	Navy			
	General Technical	Mechanical	Electronics	Clerical
Mechanical	.70	.91	.78	.56
Administrative	.82	.71	.77	1.00
General	1.00	.81	.89	.82
Electronics	.85	.87	.94	.72

Table A7. **Intercorrelations of Navy and High School Composites**

Navy	High School					
	General Technical	General Mechanical	Electronics/ Electrical	Clerical/ Administrative	Motor Mechanical	Communications
General Technical	1.00	.84	.87	.82	.80	.83
Mechanical	.81	.91	.87	.71	.96	.89
Electronics	.89	.88	.97	.77	.90	.87
Clerical	.82	.71	.72	1.00	.67	.69

Table A8. **Intercorrelations of Air Force and High School Composites**

Air Force	High School					
	General Technical	General Mechanical	Electronics/ Electrical	Clerical/ Administrative	Motor Mechanical	Communications
Mechanical	.70	.86	.80	.56	.92	.81
Administrative	.82	.71	.72	1.00	.67	.69
General	1.00	.84	.86	.82	.80	.83
Electronics	.85	.94	.96	.72	.86	.94

Table A9. **Intercorrelations of Army/Marine Corps and Air Force Composites**

Army/Marine Corps	Air Force			
	Mechanical	Administrative	General	Electronics
General Technical	.70	.82	1.00	.85
General Maintenance	.93	.68	.85	.90
Clerical	.62	.89	.93	.81
Mechanical Maintenance	.93	.62	.73	.86
Surveillance/Communications	.80	.79	.95	.93
Combat	.81	.77	.80	.89
Field Artillery	.75	.78	.90	.88
Operators and Food	.82	.60	.70	.72
Skilled Technical	.68	.78	.90	.88
Electronics (Army Only)	.90	.67	.80	.92
Electronics (Marine Corps Only)	.78	.77	.89	.94

Table A10. **Intercorrelations of Army/Marine Corp and Navy Composites**

Army/Marine Corps	Navy			
	General Technical	Mechanical	Electronics	Communications
General Technical	1.00	.81	.89	.82
General Maintenance	.86	.92	.91	.68
Clerical	.93	.76	.85	.89
Mechanical Maintenance	.73	.90	.86	.62
Surveillance/ Communications	.95	.89	.91	.79
Combat	.79	.86	.84	.77
Field Artillery	.88	.89	.97	.78
Operators and Food	.71	.75	.75	.60
Skilled Technical	.90	.88	.96	.78
Electronics (Army Only)	.80	.93	.92	.67
Electronics (Marine Corps Only)	.89	.91	1.00	.77

Table A11. **Intercorrelations of Army/Marine Corps and High School Composites**

Army/Marine Corps	High School					
	General Technical	General Mechanical	Electronics/ Electrical	Clerical/ Administrative	Motor Mechanical	Communications
General Technical	1.00	.84	.86	.82	.80	.83
General Mechanical	.85	.90	.82	.68	.96	.91
Clerical	.93	.79	.81	.89	.74	.78
Mechanical Maintenance	.73	.85	.88	.62	.92	.79
Surveillance/ Communications	.95	.92	.89	.79	.88	.96
Combat	.80	.94	.84	.77	.81	.89
Field Artillery	.88	.86	.95	.78	.89	.85
Operators and Food	.71	.72	.76	.60	.82	.67
Skilled Technical	.90	.85	.89	.78	.86	.86
Electronics (Army Only)	.80	.90	.93	.66	.90	.88
Electronics (Marine Corps Only)	.89	.88	.97	.77	.90	.87

Table A12. **Ethnic and Sex Breakdown by ASVAB Form[a]**

Subsample	ASVAB Form 5	6	7
Ethnic Group			
Caucasian	369	318	268
Indian	6	3	2
Black	191	179	146
Oriental	13	3	12
Spanish	23	13	12
Unknown	8	14	20
Sex			
Male	545	479	407
Female	64	51	50
Unknown	1	0	3
Total Cases	610	530	460

[a]For the AFQT stratified sample.

Table A13. **Average Full Range Correlation Across Forms (ASVAB 5, 6, 7)**

	GI														
NO	48	NO													
AD	26	51	AD												
WK	67	56	29	WK											
AR	58	63	35	70	AR										
SP	41	41	34	50	58	SP									
MK	52	64	34	66	77	52	MK								
EI	64	29	28	68	66	52	63	EI							
MC	58	43	26	63	66	62	60	72	MC						
GS	64	50	26	75	67	51	65	72	68	GS					
SI	64	43	25	59	58	48	49	72	79	61	SI				
AI	58	34	15	52	52	43	43	68	67	57	74	AI			
CM	23	02	01	06	12	19	05	30	31	15	41	48	CM		
CA	14	25	15	25	25	11	27	15	06	21	05	04	02	CA	
CE	11	09	07	07	19	17	22	24	19	16	17	19	52	32	CE
CC	42	26	16	38	35	27	28	41	43	37	49	41	42	12	22

Note. – Decimal points omitted.

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